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Remarks

The Examiner has rejected claims 1-12 and 16-19 under 35 USC 103(a) as unpatentable over Sawyer (EP 0419266) in view of Velenyi (US 4,808,563). Applicants respectfully traverse that rejection.

First, applicants submit that there is no basis for combining Sawyer and Velenyi. Sawyer deals with slurry hydroprocessing. Velenyi does not. Velenyi deals with converting methane to ethane, ethylene and mixtures thereof. As is stated in the MPEP (2143.01), "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art". Clearly there is absolutely no reason for one to even consider using a catalyst of Velenyi in the process of Sawyer. For this fact alone the rejection based on the combined references must fail.

Second, applicants' process requires use of a catalyst comprising "... at least one non-noble Group VIII metal and two Group VIB metals and wherein said bulk metal catalyst comprises a non-noble Group VIII metal molybdate in which at least a portion but less than all of molybdenum is replaced by tungsten..." The Examiner has admitted that these features cannot be found in Sawyer and resorts to Velenyi in an attempt to overcome that deficiency stating that it would be obvious to replace some molybdenum with tungsten since they have similar properties. Were such the case similar activity of such a catalyst would be expected. Applicants, however, have shown (Example 5 for instance) that partial substitution of W for Mo results in catalysts that have substantially higher activity for DBT conversion. Thus applicants have shown unexpected results.

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Third, in the catalyst of Velenyi, which is represented by the formula $Mo_aW_bM_cA_dO_e$, M may be a Group VIII metal; however, a Group VIII metal need not be present (See col. 3, lines 41 and 42 where c:(a+b) can be 0:100). Applicant's catalyst contains a non-noble Group VIII metal. Also, in Velenyi M may be any or more of 32 different metals and A may be any one or more of 25 different metals with absolutely no suggestion as to which of these 57 elements would be useful in combination with at least two Group VIB metals in hydroprocessing. Clearly there is no reasonable expectation that some perturbation of Velenyi's catalyst for hydrocarbon synthesis could be successfully used in hydroprocessing and reasonable expectation of success is a standard with which obviousness is determined.

In view of the foregoing, applicants submit their claims are patentable over the cited art.

The Examiner has rejected claims 13-15 under 35 USC 103(a) based on Sawyer in view of Velenyi in further view of Olah. Applicants respectfully traverse that rejection.


Olah adds nothing to render applicants independent claims obvious and hence dependent claims 13 to 15 are non-obvious as well.

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In view of the foregoing, applicants urge prompt allowance of the subject application.

Respectfully submitted,



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